

The invention relates to a process and apparatus for the determination of the parameters of a breath condensate using at least one sensor for the measurement of the parameters and an analysis unit with display for the measurement results. The at least one sensor (2) is positioned in a closed cassette (1), whereby the cassette includes storage containers (4, 5, 6) with flushing solutions and/or solutions for the conditioning of the at least one sensor and/or calibration solutions and/or compounds for the manufacture of a calibration solution and/or for the dilution of the sample solution and/or for elevation of the ion concentration or the conductivity of the sample solution. The storage containers (4, 5, 6) deliver their contents completely or in metered amounts into the cassette and/or onto the at least one sensor (2) under the action of means acting from the outside and through the cassette walls. Furthermore, the cassette (1) includes at least one opening for the introduction of the sample solution onto the at least one sensor (2), and has contacts (3) for receiving the measurement data originating from the at least one sensor (2).